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EXAMINER	
ANDREWS, LEON T	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/809,685	KOLZE ET AL.	
	Examiner	Art Unit	
	LEON ANDREWS	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *28 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

RCE

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 28, 2008 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-7, 9-19 are rejected under 35 U.S.C. 102 (b) as being anticipated by Grimwood et al. (Pub. No.: US 2001/0033611 A1)

Regarding Claims 1 and 3, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) for maintaining synchronization in a communication system wherein a central entity transmits a signal containing timing information to one or more remote devices, the one or more remote devices using the timing information for scheduling transmissions (Fig. 6, 256, Sync message includes sample of timestamp and CMTS sends sync message; transmitting timestamp data downstream from the CU allow the RUs to align their upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method comprising:

synchronizing a first symbol clock (CU master chip clock, paragraph [0004], page 1, line 7) and a second symbol clock (downstream chip clock, paragraph [0004], page 1, line 6) (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2) in the central entity (upstream clock and downstream clock in a central unit CU, abstract, lines 2-4; Fig. 1, all clocks in both the RU and CU being synchronized in the CU, paragraph [0020], page 3, lines 3-5);

transmitting a first signal using a first transmitter in the central entity (transmission (via first transmitter) from the CU to RUs, paragraph [0004], page 1, line 2 at Fig. 6, 256) to the one or more remote devices, wherein the first signal includes timing information based on the first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6; Fig. 6, timestamp counter CMTS_SYNC_TS) and data having a first forward error correction (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4); and

upon termination of transmission of the first signal (Fig. 22, start/end of superframe) to the one or more remote devices (Fig. 7, (300, with the upstream and downstream clock sync (a first signal is not transmitted (termination); 302, process looks and waits (non transmission termination) for message (first signal) to arrive), transmitting a second signal (Fig. 7, 305, second message with timebased conversion factor) using a second transmitter in the central entity (Fig.6, CMTS sends (via second transmitter) message to RU in UCD from CU at Fig. 6, 262; Fig. 13, downstream management and control messages; Fig. 24, downstream messages to transmitter) to the one or more remote devices, wherein the second signal includes timing information based on the second symbol clock (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7; Fig. 6, timestamp counter CMTS_KF_TS) and data having a second FEC alignment (data frames are broken down into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6) that is synchronized with the first FEC alignment (time of insertion of sync messages are always inserted in the same place in the FEC frame, paragraph [0015], page 2, lines 4-6).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have

been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 4 and 8 are being rejected under 35 U.S.C. 103(a) as being unpatentable over Grimwood et al. (Pub. No.: US 2001/0033611 A1) by Lee et al. (Patent No.: US 6,539,050 B1).

Regarding Claims (as best understood) 2, 4, and 8, Grimwood et al. discloses the method (method, Title, line 1), wherein the first transmitter transmits a notification message (Fig. 6, 262, CMTS sends message to RU; messages normally sent between the CU and the RU frames, paragraph [0014], page 2, lines 5-8) to the one or more remote devices indicating that the first signal will be terminated (signals to stop adding (terminate) payload bytes to the downstream and add all the bytes of the sync message at the appropriate insertion point, paragraph [0157], page 15, lines 3-6) prior to termination of transmission of the first signal (Fig. 11, reset and initialize of the downcounter (resulted in the first signal being terminated) and message being sent during the first packet of the next frame starting at a known position).

Grimwood et al. teaches all the limitations of the claims including notification message and remote devices. But, Grimwood et al. fails to specifically teach signal termination prior to the termination of transmission.

However, Lee et al. teaches signal terminated approximately when the transmission of the signal is terminated (column 5, lines 2-5).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Lee et al.'s as the signal being terminated prior to the transmission termination since this would have provided coherent detection without causing undesirable intracell interference (column 5, lines 5-7).

Regarding Claim 5, Grimwood et al. discloses a method (method, Title, line 1) for maintaining synchronization in a communication system (communicating system, Abstract, line 1) wherein a central entity (central unit, Abstract, line 4) transmits a signal containing timing information to one or more remote devices, the one or more remote devices using the timing information for scheduling transmissions (transmitting timestamp data downstream from the CU allow the RUs to align their upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method comprising:

synchronizing a first symbol clock (CU master chip clock, paragraph [0004], page 1, line 7) and a second symbol clock (downstream chip clock, paragraph [0004], page 1, line 6) (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2) in the central entity (upstream clock and downstream clock in a central unit CU, abstract, lines 2-4; Fig. 1, all clocks in both the RU and CU being synchronized in the CU, paragraph [0020], page 3, lines 3-5);

transmitting a first signal using a first transmitter in the central entity (transmission (via first transmitter) from the CU to RUs, paragraph [0004], page 1, line 2 at Fig. 6, 256) to the one or more remote devices, wherein the first signal includes timing information based on the first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph

[0004], page 1, lines 1-6) and data having a first forward error correction (FEC) alignment (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4);

generating a second signal that includes timing information based on the second symbol clock (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7) and data having a second forward error correction (FEC) alignment (data frames are broken down into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6);

transmitting calibration information relating to a difference between the first FEC alignment and the second FEC alignment (Fig. 9 and Fig 10, sync start position in bytes and sync adjustment in FEC frames; Fig.11, reset, initialize down counter for sync message during the first MPEG packet of the next FEC frame starting at a known position in the MPEG packet 360) to the one or more remote devices; and

upon termination of transmission of the first signal (Fig. 7, 302, process looks and waits (non transmission termination) for message to arrive) to the one or more remote devices (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6), transmitting the second signal using a second transmitter in the central entity (Fig.6, CMTS sends (via second transmitter) message to RU in UCD from CU at Fig. 6, 262) to the one or more remote devices (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page

1, lines 5-7).

Regarding Claims 6, 16 and 17, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS), further including a calibration element adapted to generate the calibration information by comparing the first FEC alignment to a reference FEC alignment (Figs. 9, 10, Table 1, 2) and by comparing the second FEC alignment to the reference alignment (Figs. 9, 10, Table 1, 2).

Regarding Claim 7, Grimwood et al. discloses the method of claim 5, further comprising: generating the calibration information, wherein generating the calibration information comprises generating first calibration data by comparing the first FEC alignment to a reference FEC alignment (Figs. 9, 10, Tables 1, 2) and generating second calibration data by comparing the second FEC alignment to the reference alignment (Figs. 9, 10, Table 1, 2).

Regarding Claims 9, 12 and 15, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) in a communication system (communicating system, Abstract, line 1), the apparatus comprising:

a first downstream transmitter (downstream transmission (transmitter) from the CU to the RUs, paragraph [0004], page 1, lines 1-2) (Fig. 13, transmitter is intended to operate in the CU upstream or downstream, paragraph [0220], page 22, lines 7-9) adapted to transmit a first downstream signal (Fig. 6, CMTS sends sync message including time stamp, CMTS_SYNC_TS from CU to RU) to one or more remote devices, wherein the first downstream signal includes

first timing information based on a first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6) and first data having a first forward error correction (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4);

a second downstream transmitter (pilot channel data transmitted (transmitter) during timeslot 0 in the downstream from the CU, paragraph [0004], page 1, lines 8-10) adapted to transmit a second downstream signal (pilot data from the CU, paragraph [0004], page 1, lines 8-10) to the one or more remote devices in response to the first downstream transmitter terminating transmission of the first downstream signal, wherein the second downstream signal includes second timing information based on a second symbol clock (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7) and second data having a second FEC alignment that is synchronized with the first FEC alignment (data frames are broken down into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6); and

a synchronization element adapted to synchronize the first symbol clock and the second symbol clock (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2);

wherein at least one of the first downstream transmitter and the second downstream transmitter is adapted to transmit calibration information relating to a difference between the first FEC alignment and the second FEC alignment (Fig. 9 and Fig 10, sync start position in bytes and sync adjustment in FEC frames; Fig.11, reset, initialize down counter for sync message during

the first MPEG packet of the next FEC frame starting at a known position in the MPEG packet 360) to the one or more remote devices.

Regarding Claims (as best understood) 10, 13 and 18, Grimwood et al. discloses the a apparatus (Fig. 6 CU, CMTS), wherein the first downstream transmitter transmits a notification message (Fig. 6, 262, CMTS sends message to RU; messages normally sent between the CU and the RU frames, paragraph [0014], page 2, lines 5-8) to the one or more remote devices indicating that the first downstream signal will be terminated (signals to stop adding (terminate) payload bytes to the downstream and add all the bytes of the sync message at the appropriate insertion point, paragraph [0157], page 15, lines 3-6) prior to termination of transmission of the first downstream signal (Fig. 6, CMTS sends sync message including time stamp, CMTS_SYNC_TS from CU to RU).

Regarding Claims 11, 14 and 19, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) of claim 15, wherein the apparatus is a cable modem termination system (CMTS) (Fig.6, CU is CMTS, paragraph [0106], page 11, line 1).

Citation of Pertinent Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Burns et al. (Patent No.: US 6,449,291 B1) discloses method and apparatus for time synchronization in a communication system.

Gummalla et al. (Pub. No.: US 2002/0154655 A1) discloses system and method for combining requests for data bandwidth by a data provider for transmission of data over an asynchronous communication medium.

Pantelias (Pub. No.: US 2004/0100985 A1) discloses system and method for the reuse of S-CDMA parameters to define TDMA minislot size.

Sydon et al. (Pub. No.: US 2002/0085520 A1) discloses cordless communication system providing optimum spectral, usage for wireless networks.

Ushirokawa et al. (Patent No.: US 7,154,915 B1) discloses mobile communication system, communication control method, and base station and mobile station to be employed in the same.

Response to Arguments

5. Applicant's arguments filed February 28, 2008 have been fully considered, but they are not persuasive.

- In the remarks on pages 9-11 and 12-13 of the amendment, applicant contends in claims 1 and 3, Grimwood et al. does not teach or suggest "upon termination of transmission of the first signal to the one or more remote devices, transmitting a second signal using a second transmitter in the central entity to the one or more devices, wherein the second signal includes timing information based on the second symbol clock and data having a second

FEC alignment that is synchronized with the first FEC alignment". Thus, applicant requests that the rejections of claims 1 and 3 be withdrawn since they are not anticipated.

- The examiner respectfully disagrees and contends that Grimwood et al. taught the features of claims 1 and 3 which included the above argument in that **Regarding Claims 1 and 3**, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) for maintaining synchronization in a communication system wherein a central entity transmits a signal containing timing information to one or more remote devices, the one or more remote devices using the timing information for scheduling transmissions (Fig. 6, 256, Sync message includes sample of timestamp and CMTS sends sync message; transmitting timestamp data downstream from the CU allow the RUs to align their upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method comprising: synchronizing a first symbol clock (CU master chip clock, paragraph [0004], page 1, line 7) and a second symbol clock (downstream chip clock, paragraph [0004], page 1, line 6) (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2) in the central entity (upstream clock and downstream clock in a central unit CU, abstract, lines 2-4; Fig. 1, all clocks in both the RU and CU being synchronized in the CU, paragraph [0020], page 3, lines 3-5); transmitting a first signal using a first transmitter in the central entity (transmission (via first transmitter) from the CU to RUs, paragraph [0004], page 1, line 2 at Fig. 6, 256) to the one or more remote devices, wherein the first signal includes timing information based on the first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6; Fig. 6, timestamp counter CMTS_SYNC_TS) and

data having a first forward error correction (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4); and upon termination of transmission of the first signal (Fig. 22, start/end of superframe) to the one or more remote devices (Fig. 7, (300, with the upstream and downstream clock sync (a first signal is not transmitted (termination); 302, process looks and waits (non transmission termination) for message (first signal) to arrive), transmitting a second signal (Fig. 7, 305, second message with timebased conversion factor) using a second transmitter in the central entity (Fig.6, CMTS sends (via second transmitter) message to RU in UCD from CU at Fig. 6, 262; Fig. 13, downstream management and control messages; Fig. 24, downstream messages to transmitter) to the one or more remote devices, wherein the second signal includes timing information based on the second symbol clock (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7; Fig. 6, timestamp counter CMTS_KF_TS) and data having a second FEC alignment (data frames are broken down into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6) that is synchronized with the first FEC alignment (time of insertion of sync messages are always inserted in the same place in the FEC frame, paragraph [0015], page 2, lines 4-6). Thus, claims 1 and 3 are anticipated and the rejections will not be withdrawn.

- In remarks on pages 11-12, 13 and 15-16 of the amendment, applicant contends that as recited in claims 2, 4 and 8, Grimwood et at. does not teach or suggest "transmitting a notification message to the one or more remote devices indicating that the first signal will be terminated prior to the termination of transmission of the first signal". Thus, applicant requests that rejections of claims 2, 4 and 8 be withdrawn.
- The examiner respectfully contends that **Regarding Claims 2, 4 and 8,** Grimwood et al. discloses the method (method, Title, line 1), wherein the first transmitter transmits a notification message (Fig. 6, 262, CMTS sends message to RU; messages normally sent between the CU and the RU frames, paragraph [0014], page 2, lines 5-8) to the one or more remote devices indicating that the first signal will be terminated (signals to stop adding (terminate) payload bytes to the downstream and add all the bytes of the sync message at the appropriate insertion point, paragraph [0157], page 15, lines 3-6) prior to termination of transmission of the first signal (Fig. 11, reset and initialize of the downcounter (resulted in the first signal being terminated) and message being sent during the first packet of the next frame starting at a known position). Grimwood et al. teaches all the limitations of the claims including notification message and remote devices. But, Grimwood et al. fails to specifically teach signal termination prior to the termination of transmission. However, Lee et al. teaches signal terminated approximately when the transmission of the signal is terminated (column 5, lines 2-5). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Lee et al.'s as the signal being terminated prior to the transmission termination since this would have provided coherent detection without causing undesirable intracell

interference (column 5, lines 5-7). Thus, the rejections of claims 2, 4 and 8 will not be withdrawn.

- In remarks on pages 14-15 of the amendment, applicant contends that in claim 5, Grimwood et al. does not teach or suggest transmitting calibration information relating to a difference between the first FEC alignment and the second FEC alignment to the one or more remote devices, and transmitting a second signal using a second transmitter in the central entity to the one or more remote devices upon termination of transmission of the first signal to the one or more remote devices. Thus, applicant requests that the rejection of claim 5 be withdrawn since it is not anticipated.
- The examiner respectfully disagrees and contends that Grimwood et al. taught the features of claim 5 including the above arguments in that **Regarding Claim 5**, Grimwood et al. discloses a method (method, Title, line 1) for maintaining synchronization in a communication system (communicating system, Abstract, line 1) wherein a central entity (central unit, Abstract, line 4) transmits a signal containing timing information to one or more remote devices, the one or more remote devices using the timing information for scheduling transmissions (transmitting timestamp data downstream from the CU allow the RUs to align their upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method comprising: synchronizing a first symbol clock (CU master chip clock, paragraph [0004], page 1, line 7) and a second symbol clock (downstream chip clock, paragraph [0004], page 1, line 6) (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2) in the central entity (upstream clock and

downstream clock in a central unit CU, abstract, lines 2-4; Fig. 1, all clocks in both the RU and CU being synchronized in the CU, paragraph [0020], page 3, lines 3-5); transmitting a first signal using a first transmitter in the central entity (transmission (via first transmitter) from the CU to RUs, paragraph [0004], page 1, line 2 at Fig. 6, 256) to the one or more remote devices, wherein the first signal includes timing information based on the first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6) and data having a first forward error correction (FEC) alignment (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4); generating a second signal that includes timing information based on the second symbol clock (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7) and data having a second forward error correction (FEC) alignment (data frames are broken down into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6); transmitting calibration information relating to a difference between the first FEC alignment and the second FEC alignment (Fig. 9 and Fig 10, sync start position in bytes and sync adjustment in FEC frames; Fig.11, reset, initialize down counter for sync message during the first MPEG packet of the next FEC frame starting at a known position in the MPEG packet 360) to the one or more remote devices; and upon termination of transmission of the first signal (Fig. 7, 302, process looks and waits (non transmission termination) for message to arrive) to the one or more remote devices (transmission of barker codes from

the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6), transmitting the second signal using a second transmitter in the central entity (Fig.6, CMTS sends (via second transmitter) message to RU in UCD from CU at Fig. 6, 262) to the one or more remote devices (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7). Thus, claim 5 is anticipated and the rejection will not be withdrawn.

- In remarks on pages on pages 16-17, 18-19 and 20-21 of the amendment, applicant contends that in claims 9, 12 and 15, Grimwood et al. does not teach or suggest "a second downstream transmitter adapted to transmit a second downstream signal to the one or more remote devices in response to the first downstream transmitter terminating transmission of the first downstream signal, where in the second downstream signal includes second timing information based on a symbol clock and second data having a second FEC alignment that is synchronized with the first FEC alignment, wherein at least one of the first downstream transmitter and the second downstream transmitter is adapted to transmit calibration information relating to a difference between the first FEC alignment and the second FEC alignment to the one or more remote devices". Thus, applicant requests that the rejections of these claims 9, 12 and 15 be withdrawn since they are not anticipated.
- The examiner respectfully disagrees and contends that Grimwood et al. taught the features of claims 9, 12 and 15 which included the above arguments in that **Regarding**

Claims 9, 12 and 15, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) in a communication system (communicating system, Abstract, line 1), the apparatus comprising: a first downstream transmitter (downstream transmission (transmitter) from the CU to the RUs, paragraph [0004], page 1, lines 1-2) (Fig. 13, transmitter is intended to operate in the CU upstream or downstream, paragraph [0220], page 22, lines 7-9) adapted to transmit a first downstream signal (Fig. 6, CMTS sends sync message including time stamp, CMTS_SYNC_TS from CU to RU) to one or more remote devices, wherein the first downstream signal includes first timing information based on a first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6) and first data having a first forward error correction (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4); a second downstream transmitter (pilot channel data transmitted (transmitter) during timeslot 0 in the downstream from the CU, paragraph [0004], page 1, lines 8-10) adapted to transmit a second downstream signal (pilot data from the CU, paragraph [0004], page 1, lines 8-10) to the one or more remote devices in response to the first downstream transmitter terminating transmission of the first downstream signal, wherein the second downstream signal includes second timing information based on a second symbol clock (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7) and second data having a second FEC alignment that is synchronized with the first FEC alignment (data frames are broken down into packets and sent downstream in a

continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6); and a synchronization element adapted to synchronize the first symbol clock and the second symbol clock (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2); wherein at least one of the first downstream transmitter and the second downstream transmitter is adapted to transmit calibration information relating to a difference between the first FEC alignment and the second FEC alignment (Fig. 9 and Fig 10, sync start position in bytes and sync adjustment in FEC frames; Fig.11, reset, initialize down counter for sync message during the first MPEG packet of the next FEC frame starting at a known position in the MPEG packet 360) to the one or more remote devices. Thus, claims 9, 12 and 15 are anticipated ant the rejections will not be withdrawn.

- In remarks on pages 17-18, 19-20 and 21-22 of the amendment, applicant contends that as recited in claims 10, 13 and 18, Grimwood et al. does not teach or suggest the first downstream transmitter transmits a notification message to the one or more remote devices indicating that the first downstream signal will be terminated prior to the termination of transmission of the first downstream signal, and requests that the rejection of claims 10 and 13 be withdrawn.
- The examiner respectfully disagrees and contends that **Regarding Claims10, 13 and 18,** Grimwood et al. discloses the a apparatus (Fig. 6 CU, CMTS), wherein the first downstream transmitter transmits a notification message (Fig. 6, 262, CMTS sends message to RU; messages normally sent between the CU and the RU frames, paragraph

[0014], page 2, lines 5-8) to the one or more remote devices indicating that the first downstream signal will be terminated (signals to stop adding (terminate) payload bytes to the downstream and add all the bytes of the sync message at the appropriate insertion point, paragraph [0157], page 15, lines 3-6) prior to termination of transmission of the first downstream signal (Fig. 6, CMTS sends sync message including time stamp, CMTS_SYNC_TS from CU to RU). Thus, the rejection of claims 10, 13 and 18 will not be withdrawn.

- In remarks on page 23 of the amendment, applicant contends that the application is in condition for allowance.
- The examiner respectfully disagrees and contends that in light of the above prosecution, the application is not in condition for allowance.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Andrews whose telephone number is (571) 270-1801. The examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rao S. Seema can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LA/la
July 2, 2007

/Ian N. Moore/

Primary Examiner, Art Unit 2616